Artist's Impression

Environmental Statement:

Non-Technical Summary Volume 2

Houghton Main Renewable Energy Park

Peel Environmental Management (UK) Ltd and Houghton Main Waste Ltd

May 2014

enzygo
environmental consultants

Environmental Statement: Non-Technical Summary

Planning Application for the Development of Houghton Main Renewable Energy Park (REP) comprising a Timber Resource Recovery Centre and an Anaerobic Digestion Facility (AD) Including Associated Infrastructure

land off Houghton Main Colliery Roundabout, Park Spring Road,
Houghton Main, Barnsley

Peel Environmental Management (UK) Ltd and Houghton Main Waste Limited

'Experience and expertise working in unison'

www.enzygo.com

Contact Details:

Enzygo Ltd.
The Granary
Woodend Lane
Cromhall
Gloucestershire
GL12 8AA

Tel: 01454 269237
Fax: 01454 269760
Email: lee.searles@enzygo.com
www.enzygo.com

Environmental Statement: Non-Technical Summary

Planning Application for the Development Houghton Main Renewable Energy Park (REP) comprising a Timber Resource Recovery Centre TRRC and an Anaerobic Digestion Facility (AD) Including Associated Infrastructure.

Project:	CRM.066.001
Location:	Land off the Houghton Main Colliery Roundabout, Park Spring Road, Houghton Main, Barnsley
For:	Peel Environmental Management (UK) Limited
Status:	**FINAL**
Date:	MAY 2014
Author:	Saiqa Noreen, **Planning Consultant/**Lee Searles **Planning Director**
Reviewer:	Kevin Parr, **Director**

Contents

DRAWINGS & APPENDICES

Drawing	Title
PL001	Site Analysis
PL002	Site Location Plan
PL003	Proposed Site Layout Plan
Plan A	Site Location
Pan B	Land Ownership Plan

1.0 Foreword

1.1 This Non-Technical Summary (**NTS**) of the Environmental Statement (**ES**) is submitted in support of a planning application made by Peel Environmental Management (UK) Limited and Houghton Main Waste Limited (Peel) to develop a Renewable Energy Park (REP) on land off the Houghton Main Colliery Roundabout, Park Spring Road, Houghton Main, Barnsley.

1.2 The application site is 4.14 hectares (ha) in area and is located approximately 1km west of Little Houghton and 6.5km east of Barnsley Town Centre. The red line application area is shown on the Application Site Boundary Plan (PL002 Site Location Plan).

1.3 The Environmental Statement reports the outcome of the EIA process, required by the EIA Regulations so that the planning authority is fully informed of the likely significant effects of the development. The Environmental Statement comprises the following documents:

- ***Volume 1 – The Main Environmental Statement Report***. The main report provides an introduction to the proposed development and includes the technical assessments undertaken to determine the potential likely impacts of the proposal in accordance with the EIA Regulations and national guidance. Volume 1 contains:
  - ***Chapter 1****:* Background, Introduction and Context
  - ***Chapter 2****:* Site Description
  - ***Chapter 3****:* Proposed Development
  - ***Chapter 4*****:** Planning History and Policy Context
  - ***Chapter 5:*** Need and Alternatives
  - ***Chapter 6:*** Transport
  - ***Chapter 7:*** Hydrology, Flood Risk and SUDS
  - ***Chapter 8*****:** Air Quality
  - ***Chapter 9:*** Landscape and Visual Amenity
  - ***Chapter 10****:* Noise and Vibration
  - ***Chapter 11****:* Ecology and Nature Conservation
  - ***Chapter 12****:* Hydrogeology and Ground Conditions
  - ***Chapter 13***: Archaeology and Cultural Heritage
  - ***Chapter 14*****:** Socio-Economic Impacts
  - ***Chapter 15****:* Other Amenity Issues
  - ***Chapter 16:*** Cumulative Impacts
  - ***Chapter 17****:* Summary
- ***Volume 2: Non-Technical Summary.*** This document is a Non-Technical Summary of the Environmental Statement. It contains a description of the proposed development and a summary of the Environmental Statement, expressed in non-technical language.
- ***Volume 3: Technical appendices*** include the full technical assessment reports and data supporting the Environmental Statement.

1.4 Copies of the full set of Environmental Statement documents are available at a cost of £150 from Peel Environmental Management (UK) Limited, Peel Dome, The Trafford Centre,

Manchester, M17 8PL. Alternatively, the Non-Technical Summary can be obtained free of charge from the same address. Electronic copies of the Non-Technical Summary are also available free of charge from http://www.peel.co.uk/environmental.

2.0 Introduction

Introduction

2.1 This Environmental Statement (ES) supports a planning application to develop a Renewable Energy Park (REP) on land which was formerly the Houghton Main Colliery.

2.2 In accordance with the Town and Country Planning (Environmental Impact Assessment) Regulations 2011 (the EIA Regulations), an Environmental Statement accompanies the planning application. It contains the detailed information required by the Local Planning Authority (LPA) to assist them in their determination of the application.

2.3 This Non-Technical Summary of Environmental Statement (ES) summarises the outcome of the Environmental Impact Assessment (EIA) as reported in the ES.

The Site

2.4 The application site is 4.14 hectares (ha). The red line application boundary and blue line ownership boundary are on Plan A and Plan B. The Site Location Plan (PL 002) is also shown. The site is former colliery land which has regenerated naturally with scrub vegetation.

2.5 The site is located off the Houghton Main Colliery Roundabout, Park Spring Road, Houghton Main, Barnsley. The nearest postcode to the site is S71 5EX and the National Grid Reference of the centre of the site is SE 41696 06515. The site is bounded by the A6195 Park Spring Road to east and curved flood defence bunds to the north and west which follow the alignment of a disused rail line. The River Dearne runs in a north-south direction to the west of the site.

The Applicant

2.6 The applicant is Peel Environmental Management (UK) Limited and Houghton Main Waste Limited (Peel). Peel Environmental Management (UK) Limited owns, manages and develops infrastructure in the waste, minerals and environmental sectors. The company identifies sites suitable for development and is at the forefront of developing new infrastructure by working with technology partners to address the energy challenges faced. Peel Environmental Management (UK) Limited is seeking to develop a network of energy facilities across England and Scotland, and is currently pursuing opportunities in Yorkshire and Nottinghamshire. Houghton Main Waste Limited is a special purpose vehicle created by Peel to deliver the proposed Houghton Main REP development.

This Document

2.7 This document is the Non-Technical Summary (NTS) of the Environmental Statement (ES), which has been prepared to accompany the planning application. It summarises the findings of an Environmental Impact Assessment (EIA) of the proposed scheme in non-technical language.

3.0 Project Description

The proposed development

3.1 The proposed REP comprises a 150,000 tonnes per annum (tpa) Timber Resource Recovery Centre (TRRC) and a 60,000 tpa Anaerobic Digestion (AD) facility. The development of the site will create two distinct but compatible energy generation facilities with the potential to generate a total of 23 megawatts (MW) of electricity and provide a direct heat and/or electrical supply to appropriate off-takers in the local area.

3.2 The AD facility will be constructed and operated by Tamar Energy, a renewable energy company with significant experience in delivering AD projects in the UK. Tamar Energy is currently establishing a network of some 40 AD plants around the UK, having several already in commissioning and operation.

3.3 The AD facility will be located on the northern and eastern portion of the site and will receive and process approximately 60,000tpa of material to generate an estimated 3MW of energy via anaerobic digestion for the creation of bio-methane for use in modern gas-engines on site.

3.4 The TRRC will be developed by Northern Bio Power, a joint venture company between Custom Funding, Zerum Consult and Carbonarius; a consortium of O-Gen UK and the UNA Group. The construction and operation of the TRRC will be carried out under contract. Carbonarius Limited is currently developing similar facilities in Plymouth and Tyseley, Birmingham.

3.5 The TRRC will be located on the southern and western portion of the site. It will receive approximately 150,000tpa of biomass, which may include construction and demolition waste timber, and will subject it to a process that recovers clean ferrous and non-ferrous material for recycling and generates approximately 20MW of renewable electrical power.

Site Access

3.6 Both facilities will share the existing western access off the Houghton Main Colliery Roundabout with each facility enjoying a dedicated access into its own portion of the site. The final design of the access to each site has been determined following the completion of a Transport Assessment as part of this EIA process (see Chapter 6 of the ES) and is shown on the Proposed Site Layout drawing PL 003.

Fuel Source

3.7 The AD facility will be fuelled by locally and sub-regionally sourced food waste derived from the municipal and commercial market. A feedstock availability assessment to quantify the amount of commercial and municipal food wastes, suitable for the AD facility, within a 30 mile radius of the site was undertaken for Tamar Energy in March 2013.

3.8 In summary, the assessment identified 256,485 tonnes of potentially suitable food waste material within the survey. From the tonnages potentially identified within the catchment area of the proposed AD plant at Houghton Main, only 23% of the identified tonnage would need to be sourced in order to meet the supply requirements of the proposed AD facility.

3.9 The TRRC will be fuelled by biomass which may include timber derived primarily from commercial and industrial sources, with as much as possible sourced locally and sub-regionally.

Construction

3.10 The site will be subject to the following sequence of construction activities:

- Site clearance and creation of temporary lay down area**;**
- Site establishment, including the connection to existing off-site drainage and services, preparation of site levels;
- Construction of the facilities and access and access road, service yard, car park and weighbridges;

3.11 Potentially significant impacts arising from the construction phase of the operation are fully assessed through the Environmental Statement and, where appropriate, mitigation measures will be detailed which will ensure that construction activities do not adversely impact upon the local amenity and the environment.

Design and layout

3.12 The overall layout of the proposed development together with the design of its principle structures and buildings has primarily been guided by a requirement to ensure that the layout and building designs satisfy the operational requirements of the facility, including the required vehicular movements within the site. However, architectural treatment has also been at the forefront of the design process to ensure a high quality design appropriate for both its function and its setting will be created.

3.13 This high quality and appropriate design has been achieved through the development and testing of a series of architectural studies for both the layout of the site and the individual buildings which make up the facility. This process of evaluation and assessment of the alternative design solutions has resulted in the proposed architectural design. Full details of the design approach taken and its evolution to take account of constraints and of responses to consultation and engagement, are set out in the Design and Access Statement included in Section 3 of the Planning Application.

3.14 The proposed TRRC will comprise the following key elements;

- Reception Hall (65.0m (L) X 45.0m (W) X 9.0 (E);
- Process Building (102.0 (L) m X 30.0 (W) X 30.0m (H);
- Admin/Welfare (12.3m (L) X 18.0m (W) X 17.9m (H));
- Turbine Hall (25.7m (L) X 18.0m (W) X 17.9m (H));
- Workshop (12.3m (L) X 18.0m (W) X 17.9m (H));
- Condensers (53.7 (L) X 13.4m (W)X 23.0m (To duct);
- Fuel oil storage tank (3.0m (L) X 2.4m (W) X 2.5m (H));
- Standby generator (13.2m (L) X 3.2m (W) X 2.0 (H));

- Fire Water pumps enclosure (4.0m X 3.0m X 2.5m) and
- Fire water tank (13.0d X 7.0m)

3.15 The proposed AD will comprise the following key elements;

- Process Building (42.0m (L) X 28.0m (W) X 11.0m (E);
- Admin/ Welfare (n/a within Process Building);
- Storage Tanks (21.1 (D) X 15.7 (To railings);
- Buffer Tanks (10.1(D) X 16.0 (To railings);
- Gas Holder (8.0 (D) X 7.8m (H);
- CHP Engines (12.2m (L) X 2.5m (w) X 3.0 (H);
- Oil Store (12.2m (H) X 2.5m (W) X 3.0m (H));
- Flare (1.0 (D) X 9.0m (H)) and
- Sub-station

Access Road

3.16 Both facilities will share the existing western access off the Houghton Main Colliery Roundabout with each facility enjoying a dedicated access into its own portion of the site. The final design of the access to each site has been determined following the completion of a Transport Assessment, the results of which are contained in Volume 3 and considered in Chapter 8 of the ES.

3.17 Access to the site is from a spur off an existing roundabout (Known as Houghton Main Colliery Roundabout) on the A6195 Park Spring Road.

3.18 This existing access will be improved as part of the proposed development and tailored to suit the development proposals. Both parts of the Renewable Energy Park will use the same spur off the existing roundabout but will have individual entry points off that spur with their own entry gates and weighbridges.

4.0 Consideration of Need and Alternatives

Introduction

4.1 The ES is required to assess the suitability of the location of the proposed REP against other potential locations, to consider the need for the facilities being proposed and to consider alternative design approaches to achieve an acceptable design proposal.

Suitability of Site Location

4.2 A detailed Alternative Site Assessment (ASA) has been undertaken to assess the suitability of alternative sites and to justify the selection of the application site for the proposed REP. This is set out in full in Section 5 of the Planning Application and Chapter 5 of the ES.

4.3 A methodology was agreed with BMBC planning officers to identify and assess potential sites in two stages – a total of 56 employment sites and 4 Joint Waste Plan sites were evaluated in a Stage 1 assessment process. 43 of these sites were found to have either significant constraints or to lack the necessary available site area. 13 employment sites and 2 Joint Waste Plan sites were further examined in a Stage 2 assessment.

4.4 The suitability of potential alternative sites in stage 2 was evaluated on the basis of access, visual impact, other amenity impacts (such as air quality and noise), proximity to waste markets technical considerations and availability.

4.5 The main conclusion from the assessment is that whilst there are a number of potentially suitable sites available, no site performs any better than the proposed Houghton Main site, the proposed development of which has been fully evaluated through an Environmental Impact Assessment.

4.6 Constraints of varying levels of significance were identified for most of the Stage 2 sites assessed. If required, the suitability of mitigations to reduce to an acceptable level the visual and amenity impacts on sensitive receptors in the proximity to the alternative sites would need to be carefully evaluated.

4.7 In the light of these factors and within the constraints set by the assessment, no potential alternative sites were identified that are considered to be more suitable for proposed aggregated development than the Houghton Main Site, which is the subject of this planning application.

Feedstock Availability

4.8 The AD facility will be fuelled by locally and sub-regionally sourced food waste derived from the municipal and commercial market. A feedstock availability assessment to quantify the amount of commercial and municipal food wastes, suitable for the AD facility, within a 30 mile radius of the site was undertaken for Tamar Energy in March 2013.

4.9 In summary, the assessment identified 256,485 tonnes of potentially suitable food waste material within the survey. From the tonnages potentially identified within the catchment area of the proposed AD plant at Houghton Main, only 23% of the identified tonnage would need to be sourced in order to meet the supply requirements of the proposed AD facility.

4.10 The TRRC will be fuelled by biomass which may include timber derived primarily from commercial and industrial sources, with as much as possible sourced locally and sub-regionally.

Alternative Design and Layout

4.11 As part of the design development process for the facility on the application site, various site layouts and configurations of the proposed REP were developed and each reviewed against design criteria and the overall architectural design approach. Section 3 of the planning application, the Design and Access Statement, provides full details of the design approach taken.

4.12 A number of design constraints were identified as key drivers in developing a proposed site layout and architectural design for the Houghton Main site and proposed REP.

4.13 The locations of the AD and TRRC facilities forming the proposed REP are in this instance very much dictated by the site's boundaries and in particular the triangular shape. Their siting is also influenced by having to ensure that the location and interrelationship of all of the buildings and external equipment, together with the road infrastructure that serves them, delivers an efficient and safe layout.

4.14 The development of the design and layout of the facility has also been guided by the site constraints and operational requirements of the proposed activities. The final layout and design of the development was considered to be the most operationally efficient means of using the space available for the activities proposed.

4.15 Peel has been keen to ensure that the evolution of design approaches takes place within a framework supported locally and which is consistent with the principle of Core Strategy policy CSP29 on design. The advice of the Barnsley Urban Renaissance Design Advisory Panel (BURDAP) has been sought and its input has been valuable in informing the proposed design. The Design and Access Statement, explains how the design has responded to BURDAP advice.

4.16 The design approach has also sought to meet the requirements of Core Strategy policy CSP37 in relation to the retention and enhancement of the distinctiveness of Landscape Character Areas. There has been a close relationship between the development of the alternative design options and assessments of landscape character, and landscape and visual impacts. Within technical constraints, this has influenced approaches to site layout, building design and profile, materials and landscape proposals. Extensive engagement with local communities has also been an important influence on design. The Statement of Community Involvement set out in Section 4 of the Planning application demonstrates how consultation has influenced design evolution.

Summary

4.17 This chapter of the NTS has summarised the approaches taken to consider need for the facilities proposed, potential alternative sites and alternative design strategies to respond to site, environmental and operational requirements. It has shown how the approaches have successfully concluded that the proposed REP has a valuable role to play in meeting local

and sub-regional waste and renewable energy needs, that the chosen site is at least as good as others which are available, and that the design approach has been successful in responding to the range of constraints identified through public engagement process.

5.0 Summary of Environmental Impacts

Introduction

5.1 This chapter provides a summary of the technical assessments undertaken in support of the planning application for the proposed REP.

Transport

5.2 A comprehensive Transport Assessment (TA) has been undertaken by SK Transport Planning Ltd (SKTP) to identify current traffic movements associated with the proposed development, forecast the number of traffic movements generated by the proposal, ascertain any impacts the development may have on the local road network and recommend any mitigation measure which should be implemented. The TA is set out in Volume 3 of and is discussed in Chapter 6 of the Environmental Statement.

5.3 Construction impacts from traffic will be addressed through appropriate mitigation strategies including within a Dust Management Plan (see Air Quality below).

5.4 The TA shows that the operation of the development will have a minimal impact on surrounding highway network and will generate less traffic than that associated with the permitted site use and will have an insignificant impact when compared to baseline traffic conditions.

5.5 The operators have agreed to manage the timings of HGV movements to avoid periods of congestion on the local highway network, and to manage the routes used by HGV traffic accessing the site to reduce inconvenience to local communities. The TA concludes that the proposal meets the requirements of local and national policy, and that the residual impact of the proposal will not be severe.

5.6 A Framework Travel Plan has been prepared to support and promote sustainable access to the site, and identify measures that can be implemented to further reduce the number of single occupancy car trips generated by the proposal.

5.7 The Transport Assessment concludes that the proposal meets the requirements of local and national policy. Chapter 6 of the Environmental Statement addresses the findings of the assessment and Table 6.25 shows that the residual impact of the proposal will be negligible.

Hydrology, Flood Risk and SUDS

5.8 A Flood Risk Assessment (FRA) and Drainage Strategy have been prepared to identify if the site is at risk of flooding, if the development poses a risk to flooding elsewhere and establish a suitable drainage design for the development. The assessment also takes into account external factors such as climate change. The Flood Risk Assessment (FRA) and Drainage Strategy is set out in Volume 3 and discussed in Chapter 7 of the Environmental Statement. The surface water drainage scheme details are also set out in Section 8 of the planning application.

5.9 For the construction phase, standard best practice construction methods would be implemented to ensure that no water quality impacts result from the construction works. These would be documented in a Construction Environment Management Plan prepared at a later stage.

5.10 The key findings from the Flood Risk Assessment in relation to the operation of the development are that, based on a discussion with the Environment Agency and a review of Environment Agency flood maps (based on historic air photographic information) which show the site to be located largely within Flood Zone 1 with a small section in the westernmost part of the site is located within the current mapped Flood Zone 2, the site would be considered to have a low to medium risk of fluvial flooding.

5.11 However, there has been further interpretation of this information, in combination with detailed site topographical information surveyed as part of this planning application, which provides updated and more accurate information. The position now agreed with the Environment Agency, reflected in its response to consultation on this matter, is that that a 'low' level of flood risk is posed by this source of flooding.

5.12 The proposed development is classified as 'less vulnerable'. Less vulnerable uses are appropriate within Flood Zones 1, 2 and 3 after the completion of a satisfactory FRA. All development is, however, appropriate within Flood Zone 1.

5.13 The surface water drainage scheme for the proposed development will manage and reduce the flood risk posed by the surface water runoff from the site. The level of run-off to be permitted from the site has been agreed with BMBC and the detailed drainage scheme required to achieve that has been calculated in the detailed drainage design in the Flood Risk Assessment in Volume 3 of the ES. This provides a suitable solution to the need to manage surface water effectively to standards agreed with BMBC.

5.14 There are no Yorkshire Water sewers located within the immediate vicinity of the site. As such, the use of an appropriately specified package treatment plant to manage foul water, located within the site, will be investigated further at detailed design.

Air Quality

5.15 The construction works have the potential to create dust. During construction it will therefore be necessary to apply a package of mitigation measures to minimise dust emission. With these measures in place, it is expected that any residual effects will be insignificant

5.16 To assess the impacts of the operation of the development, an Air Quality Assessment was undertaken to ascertain the locality's baseline conditions, establish the level of dust, odour and air quality impacts the proposed development may have on sensitive receptors (such as residential properties and the ASOS building) and identify ways to mitigate any impacts. The Air Quality Assessment is set out in Appendix 8.1 in Volume 3 of the Environmental Statement.

5.17 Modelling was undertaken to assess the effect of emissions from the proposed facility, taking into account factors such other development in the local area. The assessments concluded:

- The operational impacts of increased traffic have been discounted as insignificant using published screening criteria.

- The operational impacts of the proposed gasification and AD plant on human health have been shown to be insignificant.
- The operational impacts of the proposed gasification and AD plant on ecosystems have been shown to be insignificant.
- Overall the operational air quality impacts on human health and sensitive ecosystems are considered to be insignificant.

Landscape and Visual Impact

5.18 Regarding the construction phase of the development, the landscape and visual impacts of the development would be limited to construction equipment and would therefore create only minor landscape and visual effects.

5.19 A Landscape and Visual Impact Assessment produced by Enzygo in April 2014, has been undertaken to identify any visual impacts which may result from the proposed development on sensitive receptors such as nearby residential properties. The Landscape and Visual Impact Assessment is included in the Environmental Statement.

5.20 The surrounding land uses are predominantly agricultural in nature, with the village of Darfield approximately 1.1km south, Little Houghton is approximately 0.9km south east and Great Houghton 1.5km east.

5.21 There would be areas of landscaping on the periphery of the development, to the north of the AD facility and to the south of the AD facility next to the Houghton Main Colliery Roundabout. Existing areas of planting on the western and northern boundaries of the site would be supplemented.

5.22 The study area is characterised by the combination of agricultural land uses. The industry in the area comprises of former open cast workings and many modern industrial developments are located on the valley floor.

5.23 The ASOS fulfilment centre building is a focal element within the study area. The building has a total height of 18 metres to the building's apex. Therefore the proposed TRRC building elevation of 30 metres would be visible above the roof of the ASOS building for receptors to the east, particularly those located in Great Houghton and Little Houghton.

5.24 Due to the predominant industrial and commercial land uses surrounding the site, there is a low density of sensitive receptors.

5.25 It is unlikely that any residential receptors would be significantly affected by the proposed development, and where there are oblique or partial views of the development these would be seen as in combination with other detracting features within the view, predominantly the ASOS building.

5.26 Overall, the development is expected to have a slight adverse landscape impact and slight moderate adverse visual impact. The proposal mitigates some impacts through its design approach as detailed in the Design and Access Statement at Section 3 and in the Landscaping Scheme set out in the Environmental Statement.

5.27 A landscape scheme has been formulated and is set out within the Landscape and Visual Assessment within the Environmental Statement.

Noise and Vibration

5.28 A Noise and Vibration Assessment, undertaken by Enzygo in April 2014, examines the potential for noise impacts which may result from the construction and operation of the proposed development on sensitive 'receptors' such as nearby residential properties. The Noise Assessment is set out in Chapter 10 of the Environmental Statement.

5.29 A noise survey has been undertaken at the closest receptors locations to the site, which has been used to inform the assessment.

5.30 Assessment of onsite operational noise has been undertaken based upon the methodology of BS4142, the measured background noise level data and predicted operational noise levels from the proposed REP (plant and on site vehicles). Within the scope of this application formal consultation exercise was undertaken with the planning authority (LPA), BMBC and with the Environmental Health Department at BMBC relating to the noise and vibration issues associated with the development of the REP.

5.31 As a result of the nature of the development and the separation distances involved between the operational plant and the nearest sensitive receptors, it is not considered that operational vibration would be a significant issue associated with the proposed REP.

5.32 The short term effects of the construction activities could result in significant impacts depending upon the works being undertaken at the time and the area in which they occur. With the implementation of the proposed temporary mitigation measures, careful consideration of the construction programme, and adherence to a CEMP or S61 agreement, the resulting impact significance will be reduced to within acceptable levels

5.33 Impacts to specific identified receptors during the construction phase are expected to be relatively short-term in duration. Typical construction techniques employed within the scope of a development would not generally give rise to significant vibration issues outside of the immediate vicinity of the operation.

5.34 The processes associated with the proposed REP are unlikely to generate significant levels of vibration that would be discernible beyond the site boundary and certainly not at the closest sensitive receptors which are some distance away.

5.35 The assessments of the daytime period for both the weekend and weekday periods, presented indicates that the proposed REP facility would operate at a level considered by BS4142 to 'Provide a positive indication that complaints are unlikely' and would not be considered to be detrimental to the amenity of the area and as such would not be considered prejudicial to development.

5.36 The impacts of operational noise from the proposed facility, with the implementation of the incorporated mitigation measures as detailed within the ES Chapter 10, are predicted to be acceptable and are not deemed to have an adverse effect within the vicinity of the application site.

Ecology and Nature Conservation

5.37 Enzygo Ltd was commissioned to conduct a preliminary ecological appraisal. The site has been subject to several visits over winter of 2013/14, in order to undertake a thorough ecological assessment of the site. The report of the preliminary ecological appraisal is set out in Volume 3 of the Environmental Statement.

5.38 The proposal site is surrounded by land of agricultural value. The relative nature conservation value of the proposal site appears to be low and the site is considered to contain habitats and flora that are at most of local nature conservation significance, although this assessment will be revised after a full survey for lower plant species is undertaken in the summer of 2014.

5.39 There are important ecological areas on the immediate peripheries of the site including an RSPB nature reserve. Locally there are environmental initiatives underway to maximise the value of important habitat in the area.

5.40 Opportunities to enhance habitat linkage through planting on site has been considered and is included as part of the landscape scheme set out in the Landscape and Visual Impact Assessment. For example, the inclusion of a pond on the site will provide an opportunity to create habitat linkage through the site.

5.41 The preliminary ecological assessment has recommended a number of additional surveys which have been commissioned and have commenced where appropriate. The additional surveys are a Bat Activity Survey, Badger Survey, Breeding Birds Survey, Reptile Survey, Great Crested Newt Survey, and a Problematic Species Survey.

Hydrogeology and Ground Conditions

5.42 Following the recommendation made by the South Yorkshire Mining Advisory Service in its letter to BMBC of 6th December 2014 and by the Coal Authority in its letter of 19 December 2013, Enzygo Limited has prepared a Phase I Environmental and Mining Report. Evidence supplied by the Coal Authority and the South Yorkshire Mining Advisory Service indicates that the site was used as an open cast coal pit from 1997 to 2000. The open case works was backfilled with compacted earthworks materials. There is a low moderate risk associated with the backfill materials.

5.43 Made Ground has been recorded on the site. This is associated with the backfill of the open cast coal pit. The permeability of the Made Ground is shown as very high to very low reflecting the mixed nature of the materials.

5.44 It is considered that there is a low/moderate risk associated with land quality issues at the site. Given the proposed end usage of the site with the majority of the site being covered with hard standing with perimeter landscaping it is recommended that there will be no pollutant linkage for the areas of proposed hard standing.

5.45 The Phase 1 Study recommends (at 12.1.66 and 12.1.67 of the report) intrusive ground investigations and the preparation of a geo-environmental report. These recommendations will be implemented as part of the project's development.

Archaeology and Cultural Heritage

5.46 A Cultural Heritage Environmental Impact Assessment produced in May 2014 has been undertaken to determine the likely presence of historic remains onsite and assess the possible impacts upon the historic assets arising from the proposals. The Cultural Heritage Desk-Based Assessment is included in Volume 3 of the Environmental Assessment.

5.47 It is considered that the proposed development will not have an adverse impact on any designated cultural heritage sites or settings.

5.48 It is also considered that hitherto unknown and hence unrecorded sites may have once been present within the footprint of the proposed development. However such sites will have been destroyed by the intensive utilisation of the proposed development in the 19th and early 20th centuries and that there is a minimal potential for the development to impact directly on any archaeology that might previously have been present.

5.49 Overall, the heritage statement has identified sites of national and regional importance in the study area but these are not within the boundary of the proposed development and will not be adversely affected by the proposed development. The assessment determines that the proposed REP will not adversely affect any heritage assets within the wider vicinity of the site. No mitigation measures are recommended.

Socio-Economic Impacts

5.50 A Socio-Economic Statement is set out in Chapter 14 of the Environmental Statement. It details the positive economic benefits that will result from the development of the proposed REP. The development of the REP will generate at least 200 jobs during the construction phase and 30 permanent jobs during its operation. There will be opportunities (and commitments made by Peel to encourage) for local access to jobs and supply-chains.

5.51 The proposed REP will also contribute to strategic growth objectives for Barnsley through the provision of strategic renewable energy capacity to support local businesses and encourage inward investment based on secure and sustainably energy supplies.

6.0 Summary and Conclusion

6.1 The ES provides details of the EIA carried out for the proposed development of a Renewable Energy Park (REP) on land off Houghton Main Colliery Roundabout, Park Spring Road, Houghton Main, Barnsley. The ES provides a description of the proposed development, an assessment of the likely and potential environmental impacts arising from the development, both during construction and operation of the development, and outlines proposed measures incorporated into the design to avoid, reduce and/or mitigate the adverse impacts of the proposal.

6.2 It is proposed to construct and operate the REP on approximately 4.14 hectares of land that was previously part of the Houghton Main Colliery. The development will comprise: (a) a Timber Resource Recovery Centre, receiving 150,000 tpa of biomass to generate approximately 20MW of electrical energy via a highly efficient advanced gasification process; and (b) an Anaerobic Digestion facility to generate biogas for use in a CHP engine to generate 3MW of electrical energy from 60,000tpa of received material.

6.3 The scope and methodology for the assessments undertaken to inform this ES were developed in consultation with the LPA, Barnsley Metropolitan Borough Council, and other relevant statutory consultees. This was achieved through both informal scoping and the submission of a formal scoping request to the LPA. Details of the consultation undertaken with various stakeholders are provided in the relevant chapters of this ES.

6.4 The ES is presented in the form of a main ES report and associated tables and figures (Volume 1), this non-technical summary (Volume 2) and technical appendices (Volume 3). Volume 1 of the ES is comprised of individual chapters which report the findings of detailed assessments undertaken in relation to transport, ecology, air quality etc.

6.5 This section of the Non-Technical Summary provides overall summary of the impacts of the proposal and draws on the chapters of the ES to propose a coherent and balanced strategy to ensuring the development can take place whilst having acceptable environmental impacts. The ES considers the impacts both at construction and operational phases of the project.

6.6 The Transport Assessment concludes that the strategic road network and local highway network, including key local roundabouts, can accommodate the proposed development with no or negligible impact. A framework travel plan provides a mechanism for development of specific measures to control heavy vehicle traffic and promote efficient staff travel by car. These provide an appropriate mechanism for ensuring that the mitigations recommended are adhered to.

6.7 The Flood Risk Assessment demonstrates that the proposal site is at low risk of flooding, based on the latest topographical survey. A suitable surface water drainage scheme has been prepared to manage run-off from the site in accordance with run-off rates agreed with BMBC. A foul water system will be designed at a later stage but there is no objection in principle to this from Yorkshire Water.

6.8 The Landscape and Visual Impact Assessment concludes that there are a relatively low number of sensitive receptors within the vicinity of the plant. The relationship of the proposed REP to the adjacent ASOS building and the approach to the design of the REP to respond to local residents' views will further reduce the impact of the proposed REP. The

LVIA concludes that the Proposed REP will have a slight adverse impact on some sensitive receptors. Further mitigation is proposed through landscaping scheme included with the LVIA.

6.9 The air quality assessment concludes there are negligible impacts on air quality resulting from the operation of the proposed REP. There is potential for construction dust impacts to occur, which should be mitigated to an insignificant level through the preparation of a dust management plan at the appropriate stage.

6.10 The noise and vibration assessment concludes that the noise associated with the operation of the proposed REP would conform to criteria determined by BMBC and will not be detrimental to the nearest noise sensitive receptors. The potential for construction noise associated with the proposed REP is capable of mitigation through agreed measures as part of the construction programme.

6.11 The preliminary ecological appraisal concludes the flora and fauna onsite is most likely to be of at most local nature conservation significance. This will be investigated through further surveys which have been commenced, to cover bat activity, breeding birds, reptiles, great crested newts, lower plants species and problematic species.

6.12 The Phase I Environmental and Mining Report says that there is a low to moderate risk of land quality issues at the site. It recommends intrusive ground investigations and the preparation of a geo-environmental report. This will be implemented as part of the project's development.

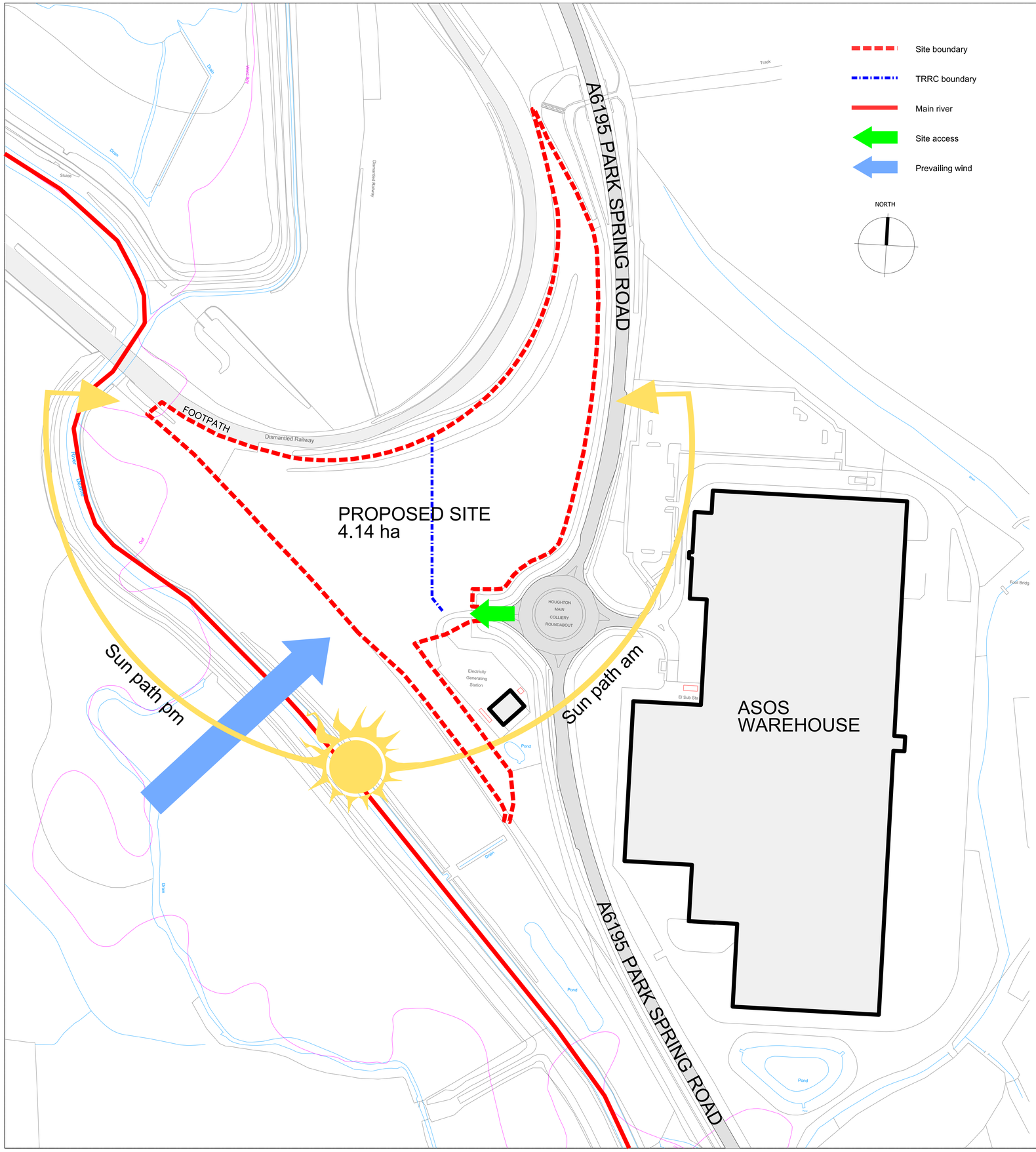
6.13 The Cultural Heritage Environmental Impact Assessment concludes that the proposed development will not have an adverse impact on any designated heritage sites or settings. Any unknown or unrecorded sites will have been destroyed during the period of mining activity between the 1890s and 2001.

6.14 The proposed REP will have a positive socio-economic impact through the provision of local jobs in the construction and operation of the plant. It will provide modern renewable energy generation facilities and the ability to supply local heat and power to businesses in the area.

6.15 The EIA undertaken for the development and reported in the ES provides a number of mitigation measures that will be employed to ensure the environmental impacts of the proposal are not significant. All mitigation measures can be put in place without conflicting with any other proposed measure. This will ensure the development is undertaken in a coherent and complimentary manner and that no cross-disciplinary issues arise.

Conclusion

6.16 The assessments contained within the ES conclude that the development as proposed can be undertaken without creating any significant adverse environmental impact. The development will restore and bring back into use the site of a former colliery for a modern renewable energy use. The proposed REP will create positive socio-economic impacts through job creation, sustainable energy supply and essential renewable energy infrastructure to support local business growth and inward investment.



ASOS office opposite site

Site entrance

Site from south east

Site from north east

NOTE

1. THIS DRAWING IS COPYRIGHT STUDIO E LLP.
2. THE CONTRACTOR MUST NOT SCALE FROM THE DRAWING ALL DIMENSIONS TO BE TAKEN FROM DIMENSION STRINGS.
3. WHERE ANY DISCREPANCIES ARE FOUND BETWEEN DIMENSIONS THESE MUST BE BROUGHT TO THE ATTENTION OF THE ARCHITECTS FOR RESOLUTION.
4. WHERE DISCREPANCIES EXIST BETWEEN REFERENCE OR ASSEMBLY DRAWINGS & DETAIL DRAWINGS, THE LATTER TAKE PREFERENCE.

-	140509	Issued for planning

FOR PLANNING

STUDIO E LLP
Palace Wharf, Rainville Road,
London, W6 9HN
Tel. 020 7385 7126
Fax. 020 7381 4995

HOUGHTON MAIN REP
PROJECT

Site Analysis
DRAWING

1:1500@A1
1:3000@A3
SCALE

140509
DATE

1302_PL001
DWG. NO.

-
REVISION

GS
CHECKED

NOTE

1. THIS DRAWING IS COPYRIGHT STUDIO E LLP.
2. THE CONTRACTOR MUST NOT SCALE FROM THE DRAWING ALL DIMENSIONS TO BE TAKEN FROM DIMENSION STRINGS.
3. WHERE ANY DISCREPANCIES ARE FOUND BETWEEN DIMENSIONS THESE MUST BE BROUGHT TO THE ATTENTION OF THE ARCHITECTS FOR RESOLUTION.
4. WHERE DISCREPANCIES EXIST BETWEEN REFERENCE OR ASSEMBLY DRAWINGS & DETAIL DRAWINGS, THE LATTER TAKE PREFERENCE.

NORTH

KEY

– Site boundary

-	140509	Issued for planning

FOR PLANNING

STUDIO E LLP

Palace Wharf, Rainville Road,
London, W6 9HN
Tel. 020 7385 7126
Fax. 020 7381 4995

HOUGHTON MAIN REP
PROJECT

Site Location Plan
DRAWING

1:1000@A1
1:2000@A3
SCALE

140509
DATE

1302_PL002
DWG. NO.

-
REVISION

GS
CHECKED

0 50 100 150m

NOTE

1. THIS DRAWING IS COPYRIGHT STUDIO E LLP.
2. THE CONTRACTOR MUST NOT SCALE FROM THE DRAWING ALL DIMENSIONS TO BE TAKEN FROM DIMENSION STRINGS.
3. WHERE ANY DISCREPANCIES ARE FOUND BETWEEN DIMENSIONS THESE MUST BE BROUGHT TO THE ATTENTION OF THE ARCHITECTS FOR RESOLUTION.
4. WHERE DISCREPANCIES EXIST BETWEEN REFERENCE OR ASSEMBLY DRAWINGS & DETAIL DRAWINGS, THE LATTER TAKE PREFERENCE.

NORTH

KEY

- Site boundary
- For details of proposed landscaping and planting please refer to Enzygo's figue no. 9.7

Ponds

PARK SPRING ROAD

Buffer tanks

Anaerobic Digestion Facility

Fuel oil storage tank and bund (double skin)

TRRC boundary

Standby generator

Ash storage silos

Dismantled Railway

Fire water tank

Fire water pumps enclosure

ACCs

Condensers

Stack

Process Building

Service access

Switchgear Room

Ctrl. Rm First Floor

Turbine

Offices/ Workshop

Service access

Available space for Sub-Station

Gas Holder

flare

chp

oil

chp

SS

ramp

Loading

Storage tanks

HGV access to this elevation via 4 no.roller shutters

Manoeuvring Apron

Adjacent In & Out weighbridges, bypass lane + kiosk

Process Building

Admin/ Welfare

Cycle shelter

Car park 11 bays inc. 2x disabled

Reception Hall

Out weighbridge

Loading access

Loading access

Cycle shelter

Car park 12 bays inc. 2x disabled

Manoeuvring Apron

Timber Resource Recovery Centre

HGV access to this elevation via 2 no. roller shutters

In weighbridge + bypass lane

Queuing - 2 x HGVs

Access maintained

HOUGHTON MAIN COLLIERY ROUNDABOUT

Electricity Generating

0 50 100 150m

-	140509	Issued for planning

FOR PLANNING

STUDIO E LLP

Palace Wharf, Rainville Road, London, W6 9HN
Tel. 020 7381 7126
Fax. 020 7381 4995

HOUGHTON MAIN REP
PROJECT

Proposed Site Layout
DRAWING

1:500@A1
1:1000@A3
SCALE

140509
DATE

DWG. NO.	REVISION	CHECKED
1302_PL003	-	GS

Key

Application Boundary
(SE 41676 06429)

enzygo
environmental consultants
STEP Business Centre, Wortley Rd, Sheffield, S36 2UH

CLIENT: Peel Environmental Management (UK) Limited and Houghton Main Waste Limited

SCALE: 1:20,000@A3

PROJECT REF: CRM.066.001.001

DRAWN: SN

CHECKED: LS

DATE: May 2014

PROJECT: Houghton Main

TITLE: Site Location

FIGURE NO: Plan A

Key

- Application Boundary
- Ownership Boundary

enzygo environmental consultants

STEP Business Centre, Wortley Rd, Sheffield, S36 2UH

Peel Environmental Management (UK) Limited and Houghton Main Waste Limited — CLIENT:

SCALE: 1:20,000@A3

PROJECT REF: CRM.066.001.001

DRAWN: SN

CHECKED: LS

DATE: May 2014

PROJECT: Houghton Main

TITLE: Land Ownership Plan

FIGURE NO: Plan B

Enzygo specialise in a wide range of technical services:

Property and Sites
Waste Planning
Waste Technologies and Renewables
Waste Technologies
Landscape Architecture
Environmental Co-ordination
Hydrology and Flood Risk
Waste Contract Procurement
Minerals Planning
Noise and Vibration
Permitting and Regulation
Environmental Planning
Ecology Services
Contaminated Land and Geotechnical

BRISTOL OFFICE
The Granary
Woodend Lane
Cromhall
Bristol GL12 8AA
Tel: 01454 269237
Fax: 01454 269760

kevin.parr@enzygo.com

SHEFFIELD OFFICE
STEP Business Centre
Wortley Road
Deepcar
Sheffield S36 2UH
Tel: 0114 2903677
Fax: 0114 2903688

matt.travis@enzygo.com

MONMOUTH OFFICE, WALES
Singleton Court Business Park
Wonastow Road
Monmouth
Monmouthshire NP25 5JA
Tel: 01600 714611
Fax: 01600 716744

chris.formaggia@enzygo.com

Please visit our website for more information.

enzygo.com